

ABSTRACT

An electrode assembly divided into a plurality of segments which are each separated by a fold, to, in turn, facilitate a fan-fold orientation. The assembly comprises a separator, an anode active material, a cathode active material, an anode current collector and a cathode current collector. Portions of the separator corresponding to at least one of the folds are substantially free of at least one of anode active material and cathode active material resulting in a gap between the respective side of the separator and the respective current collector. Additionally, the upper edge of one of the anode side and the cathode side of the separator and the lower edge of one of the anode side and the cathode side of the separator are substantially free of the respective anode or cathode active material and the respective anode or cathode current collector. Moreover, at least one of the anode current collector and the cathode current collector includes at least one slit corresponding to at least one fold of the electrode assembly